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EXAMINER

DAVIS, TEMICA M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2681

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/413,036

Applicant(s)

Ganghi et al.

Examiner

Temica M. Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 2, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-8, 11-17, 20-24, and 27-55 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-8, 11-17, 20-24, 27-44, 48, and 53 is/are rejected.
- 7) ☒ Claim(s) 45-47, 49-52, 54, and 55 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Reassignment Affecting Application Location

1. The art unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to art unit 2681.

Response to Arguments

2. Applicant's arguments with respect to independent claims 17, 33, 36, and 39 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 8 recites the limitation "said system-based power control operation" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. For purposes of

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examination, the examiner will interpret the claim language based on previous references to power control commands mentioned in claims 8 depends from.

Claim Objections

6. Claim 50 is objected to because of the following informalities: In line 5, "the second time threshold" should read --a second time threshold--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4,13, 14, 16, 17, 20, 29, 31-33, 36, 39, 41-44, 48 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami et al (Minami), U.S. Patent No. 6,587,510.

Regarding claim 17, Minami discloses a system for generating transmit power adjust commands in a wireless communications network comprising detecting interference conditions (col. 6, lines 15-28); and generating power adjust commands when said detecting step detects an increased interference condition (col. 6, lines 15-28); and converting means for converting power

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up-adjust commands to power down-adjust commands when the detection means detects an increased condition (col. 8, lines 32-56 and col. 11, lines 20-54; figures 5 and 7).

Minami, however, fails to disclose wherein the detected increased interference condition does not exceed a first time threshold.

The examiner contends, however, that at the time of invention, such a feature of providing detecting means which can detect increased interference in an expedited amount of time would have been obvious to a person of ordinary skill in the art since such a feature would improve system performance and ensure that mobiles communicating in the system would not suffer unnecessarily from degraded communications for long amounts of time.

Regarding claim 20, Minami discloses the system of claim 17 further configured for comparing a signal-to-interference measurement for the mobile with a target signal-to-interference level for the mobile; generating a power down-adjust command when the signal-to interference measurement for the mobile is greater than the target signal to-interference level for the mobile; and determining whether to generate a power down-adjust command when the signal-to-interference measurement for the mobile is less than the target signal-to-interference level for the mobile (col. 8, lines 32-56 and col. 11, lines 20-54; figures 5 and 7).

Regarding claim 29, Minami discloses the system of claim 17, wherein said detection means monitors change in total reverse link signal strength (col. 4, lines 20-31 and col. 6, lines 15-28).

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Regarding claim 31, Minami discloses the system of claim 17 wherein said detection inherently monitors signal-to-interference levels for a plurality of mobiles since inherently multiple mobiles are communicating in the system (col. 4, lines 11-31).

Regarding claim 32, Minami discloses the system of claim 17, wherein said detection means monitors in total reverse link signal strength (col. 4, lines 20-31 and col. 6, lines 15-28).

Regarding claims 33 and 36, Minami discloses a method/system for generating transmit power adjust commands in a wireless communications network comprising detecting interference conditions; selecting a first power control scheme when said detecting step does not detect an increased interference condition; selecting a second power control scheme when said detecting step detects an increased interference condition and generating power adjust commands based on the selected power control scheme; and converting power up-adjust commands to power down-adjust commands when the detection means detects an increased condition (col. 6, lines 15-28 and col. 8, line 33-col. 9, line 11; figures 5 and 7).

Minami, however, fails to disclose wherein the detected increased interference condition does not exceed a first time threshold.

The examiner contends, however, that at the time of invention, such a feature of providing detecting means which can detect increased interference in an expedited amount of time would have been obvious to a person of ordinary skill in the art since such a feature would improve system performance and ensure that mobiles communicating in the system would not suffer unnecessarily from degraded communications for long amounts of time.

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Regarding claim 39, Minami discloses a method of generating transmit power adjust commands in a wireless communication network comprising: detecting interference conditions; and converting power up-adjust commands to power down-adjust commands when the detection means detects an increased condition (col. 8, lines 32-56 and col. 11, lines 20-54; figures 5 and 7).

Minami, however, fails to disclose wherein the detected increased interference condition does not exceed a first time threshold.

The examiner contends, however, that at the time of invention, such a feature of providing detecting means which can detect increased interference in an expedited amount of time would have been obvious to a person of ordinary skill in the art since such a feature would improve system performance and ensure that mobiles communicating in the system would not suffer unnecessarily from degraded communications for long amounts of time.

Regarding claim 4, Minami discloses the method of claim 39 further comprising comparing a signal-to-interference measurement for the mobile with a target signal-to-interference level for the mobile; generating a power down-adjust command when the signal-to interference measurement for the mobile is greater than the target signal to-interference level for the mobile; and determining whether to generate a power down-adjust command when the signal-to-interference measurement for the mobile is less than the target signal-to-interference level for the mobile (col. 8, lines 32-56 and col. 11, lines 20-54; figures 5 and 7).

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Regarding claim 13, Minami discloses the system of claim 39, wherein said detection means monitors change in total reverse link signal strength at a base station (col. 4, lines 20-31 and col. 6, lines 15-28).

Regarding claim 14, Minami discloses the system of claim 39, wherein said detecting step monitors absolute total reverse link signal strength (col. 4, lines 20-31 and col. 6, lines 15-28).

Regarding claim 16, Minami discloses the system of claim 39 wherein said detecting step inherently monitors signal-to-interference levels for a plurality of mobiles since inherently multiple mobiles are communicating in the system (col. 4, lines 11-31).

Regarding claim 41, Minami discloses the method of claim 39, wherein the converting converts a percentage of the power up-adjust commands to power down-adjust commands (figures 5 and 7).

Regarding claim 42, Minami discloses the method of claim 41 as described above. Minami, however, fails to disclose wherein the percentage amount is predetermined.

The examiner contends that using predetermined information in a power control environment for changing power control commands is well known in the art, and the examiner takes official notice as such.

Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Minami with the teachings of well known prior art since such a technique is used in helping to maintain accuracy in maximum system capacity (since system

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capacity is linked to the amount of interference, and ultimately to the transmit power of communicating mobiles).

Regarding claim 43, Minami discloses the method of claim 41 further comprising dynamically modifying the percentages (figures 5 and 7).

Regarding claim 44, Minami discloses the method of claim 43 wherein dynamically modifying comprises: adjusting the percentage based upon at least one of a level of the increased interference condition and a duration of the increased interference condition (col. 6, lines 15-28 and col. 8, lines 33-56).

Regarding claim 48, Minami discloses the method of claim 17, wherein the converting means is configured to convert a percentage of the power up-adjust commands to power down-adjust commands and dynamically modify the percentage (figures 5 and 7).

Regarding claim 53, Minami discloses the system of claim 36, wherein the converting means is configured to convert a percentage of the power up-adjust commands to power down-adjust commands and dynamically modify the percentage (figures 5 and 7).

9. Claims 5-8, 11, 12, 21, 22-24, 27, 28, 34, 35, 37, 38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami as applied to claim 17 above, and further in view of Chheda et al (Chheda), U.S. Patent No. 6,181,738.

Regarding claims 5 and 21, Minami discloses the method/system of claims 20 and 39, and further discloses wherein said determining step determines whether to generate a power

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down-adjust command when the signal-to interference measurement for the mobile is less than the target signal-to interference level for the mobile (col. 6, lines 15-28 and col. 8, lines 32-56).

Minami, however, fails to disclose wherein such determining is based on a statistical probability.

Chheda reads on this limitation (col. 6, lines 35-46 and col. 9, lines 39-67).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Minami with the teachings of Chheda for the purpose of ensuring better accuracy in the issuance of power control commands with the use of previous system commands.

Regarding claims 6 and 22, Minami discloses the method/system of claims 17 and 39, and further discloses generating a power adjust command based on a comparison of signal-to-interference measurement for the mobile and a target signal-to interference level for the mobile (col. 6, lines 15-28).

Minami, however, fails to disclose judging whether an erasure frame has been received for the mobile; and determining whether to adjust the target signal-to-interference level for the mobile when an erasure frame has been received for the mobile.

Chheda reads on these limitations (col. 2, lines 52-57 and col. 2, line 64-col. 3, line 10).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Minami with the teachings of Chheda for the purpose of maximizing reverse link performance when interference is present (Chheda, col. 2, lines 20-25).

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Regarding claims 7 and 23, the combination of Minami and Chheda discloses the system of claims 6 and 22 and further discloses wherein said determining step determines whether to adjust the target signal-to-interference level for the mobile when an erasure frame has been received for the mobile based on a statistical probability (Chheda, col. 2, lines 52-57, col. 2, line 64-col. 3, line 10 and col. 6, lines 35-46 and col. 9, lines 39-67).

Regarding claims 8 and 24, the combination of Minami and Chheda discloses the system of claims 4 and 20 and further discloses judging whether an erasure frame has been received for the mobile; and determining whether to adjust the target signal-to-interference level for the mobile when an erasure frame has been received for the mobile (Chheda, col. 2, line 64-col. 3, line 18).

Regarding claims 11 and 27, the combination of Minami and Chheda discloses the method/system of claims 5 and 21 and further discloses wherein the statistical probability is variable (Chheda, col. 9, lines 39-50).

Regarding claims 12 and 28, the combination of Minami and Chheda discloses the system of claims 7 and 23 and further discloses wherein the statistical probability is variable (Chheda, col. 9, lines 39-50).

Regarding claims 34, 35, 37 and 38, Minami discloses the method/system of claims 33 and 36 as described above.

Minami, however, fails to disclose wherein the second power control scheme is a modified reverse inner loop or outer loop power control scheme.

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Chheda discloses a power control system which utilizes a modified reverse inner and outer loop power control scheme (col. 3, lines 4-24).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Minami with the teachings of Chheda since it is known in the art that such power control techniques can be used in order to increase system performance in the presence of interference or other conditions which often lessen system performance.

Regarding claim 40, Minami discloses the method of claim 39 as described above.

Minami, however, fails to disclose wherein such converting is based on a statistical probability.

Chheda reads on this limitation (col. 6, lines 35-46 and col. 9, lines 39-67).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Minami with the teachings of Chheda for the purpose of ensuring better accuracy in the issuance of power control commands with the use of previous system commands.

10. Claims 15 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami as applied to claims 17 and 39 above, and further in view of Padovani, U.S. Patent No. 6,192,249.

Regarding claims 15 and 30, Minami discloses the system of claims 17 and 39 as described above.

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Minami, however, fails to disclose wherein said detecting step monitors a ratio of power up-adjust commands to total power adjust commands.

Padovani reads on this limitation (col. 11, line 45-col. 12, line 57).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Minami with the teachings of Padovani for the purpose of monitoring the loading conditions of the system in order to further reduce or prevent interference (Padovani, col. 12, lines 47-58).

Allowable Subject Matter

11. Claims 45-47, 49-52, 54 and 55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 45, 49, 51 and 54, prior art fails to suggest or render obvious modifying a number of power up-adjust commands converted to power down-adjust commands in the converting step when the duration of the detected increased interference conditions exceeds the first threshold and does not exceed a second time threshold.

Regarding claims 46, 47 and 52, they are indicated allowable based on their dependence of allowable claim 45.

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Regarding claims 50 and 55, prior art fails to suggest or render obvious a power control system wherein the system is configured to perform one of a handdown operation and switching to a different transmit/receive frequency channel when the duration of the detected increased interference condition exceeds a second time threshold. *Note the above objection to allowable claim 50 in paragraph 6 described above.*

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temica M. Davis whose telephone number is (703) 306-5837. The

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examiner can normally be reached on Monday-Thursday from 7:30 am to 5:00 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Dwayne Bost, can be reached on (703) 305-4778.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC2600 Customer Service whose telephone number is (703)306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for any communications intended for entry).

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).



Temica M. Davis
July 12, 2003


ERIKA GARY
PATENT EXAMINER